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#### BULLETIN No. 79.

The Connecticut Agricultural EXPERIMENT STATION.

JULY, 1884.

### The Connecticut Agricultural Experiment Station.

#### BULLETIN No. 79.

JULY, 1884.

#### OBSERVANCE OF THE FERTILIZER LAW.

Manufacturers who have paid Analysis Fees as required by the Fertilizer Law, since the issue of the last Bulletin, and Fertilizers for which the Fees have thus been paid.

FIRM.	ARTICLES.	DATE.
Anderson, W. H., Putnam	Ground Bone	May 29.
Bosworth Bros., Putnam	Potato Phosphate	June 27.
Dickenson, David, Middle Haddam	Superphosphate of Lime	July 5.
,	Peruvian Guano, Guaranteed	July 1.
· ·	Peruvian Guano, Standard	T 0.4
· · · · ·	Standard Superphosphate Superphosphate	
Mapes' Formula & Peruvian Guano		June 30.
	Standard Ammoniated Superphos.	June 27.
Peck Bros., Northfield	Pure Ground Bone	June 24.
Read & Co., New York	Matchless Tobacco Manure Farmers' Friend Fertilizer	July 3.
Slade, F. C., Oakville	Ground Bone	June 25.
Wilcox, L. & Co., Mystic Bridge	Acidulated Fish Guano Ground  Dry Ground Fish Guano	July 8.

Dealers who up to July 10, 1884, have complied with Section 4 of the Act concerning Commercial Fertilizers, and reported to the Director of this Station their names, residences and post office addresses, and the names and brands of fertilizers sold, with the names and addresses of the manufacturers, importers or parties from whom such fertilizers were obtained.

Dealer.		Article,	Manufacture	r.
Jos. S. Adam, Lin	ne Rock,	A. A. Phosphate.	H. J. Baker & Bro., N	ew York.
"	11	Pelican Bone Phosphate.		"
"	"	Special Corn Fertilizer.	61	"
**	11	Special Potato Fertilizer.	"	
"	"	Castor Pomace.		
"	44	Quin. Fert. Co. Phosphate.	Quinnipiac Fertilize	er Co.,
	44	Dry Ground Fish.	New London.	44
		Fish and Potash, Crossed Fishes Brand.		
44	"	Fish and Potash, Plain Brand		11
44	44	Quin. Extra Superphosphate.	ii.	4.6
G. H. Alford, W	insted.	Muriate of Potash.	H.J.Baker & Bro., N	ew York.
"	44	Peck Bros. Pure Ground Bone.	Peck Bros., Northfi	ield.
44	"	Pelican Bone Superphos.	H. J. Baker & Bro., N	ew York.
44	+4	Baker's A. A. Superphos.	"	+ 4
John P. Barstow	& Co.,	Potato Fertilizer.	Mapes' Formula &	Peruvian
Norwich.		Corn Fertilizer.	Guano Co., New	York.
44	44	A. Brand Complete Manure.	"	4.4
44	64	Animal Fertilizer.	L. B. Darling Ferti	lizer Co.,
"	4.6	Ground Bone.	Pawtucket, R. I.	•
"	44	Ammoniated Bone Super-	E. Frank Coe, New	York.
		phosphate of Lime.		
44	"		Bradley Fert. Co., I	
44	44	Special Favorite.	Russel Coe, New Y	ork.
**	44	Fish and Potash, Crossed	Quinnipiac Fertilize	er Co.,
		Fishes Brand.	New London.	
"	44	"Super Phosphate."	"	**
C. E. Benton, Sh	aron.	Cook's Dissolved Gro'd Bone. "Blood Guano.	Ed. F. Cook, Bridge	eport.
Birdsey & Foster,	Meriden	Mapes' Potato Manure.	Mapes' Formula &	Peruvian
44	44	" Corn Manure.	Guano Co., New	York.
t t	"	" Complete Manure, A. Brand.	4:	**
11	44	" Complete Manure, for	u	
		Light and Sandy Soils.	"	4.6
Jacob Blakeslee,	Water-		Bowker Fert. Co., I	Boston.
town.		" Forage Crop Man.	11	44
44	44	" Vegetable Man.	"	
44	44	Bowker's Hilland Drill Phos.	11	4.4
"	4.4	" Fish and Potash.	44	*4
44	44	" Dissolved Bone.	4.	11
44	44	" Dry Fish.	11	4.4
ŧ.	4.	" Kainit.	44	4.
E. C. Brownell,	Moodus.	Miles' I. X. L. Phosphate. "Fish and Potash.	G. W. Miles Co., M	ilford.
44	44	Stockbridge Grain Manure.	Dowlson Flort Co. T	

Dealer.		Article.		1	Manufactui	rer.
E. C. Brownell, Mo		bridge Vegeta "Forage C		Bowker	Fert. Co.,	Boston.
"		s Peruvian Gua		Furnishe Gardi		uthmayd &
Jno. L. Butler, Torrin				Bradley	Fert. Co.,	Boston.
G. A. Bushnell, Old				Williams	s, Clark &	Co., N. Y.
brook. Brewster & Burnett,		ersal Superpho cer's Ground B		Bowker	Fert. Co.,	Boston
wich.		<ul> <li>Potato Ma</li> </ul>		14	1 010. 00.,	"
"	,	Grain Mai				"
" "		THIADGDI		"		"
" "		Top Dress		"		"
S. E. Case, New Har	fo'd. Buffa				cker, Buf	falo, N. Y.
	Buffa	bacco Phospha lo Ammoniate	e.		,	"
" "		perphosphate.		0 13.	- A C 3T	T ,
" "		nipiac Phospha and Potash.	te.	Quin. Fe	rt. Co., Ne	ew London
C. E. Chapman, West			ill Phos.	Bowker	Fert. Co.,	Boston,
		Dissolved 1	Bone.		,	"
" "	Ct1	I the Groun		"		46
	STOCK	bridge Potato : " Grain M		"		"
Coburn & Gale, Hart	ford. Bowl			**		**
"		Dissolved .		"		"
11 11		bridge Corn M		"		"
11 11		" Potato I		"		"
	Bowl	" Top Dre ter's Hill and Dr		"		"
J.B.Cotton, Warehou Cochrane Brothers,	sePt Quini	nipiac Phospha				ew London New York.
Cornwall.		o Manure.		"		11
"		an Bone Fertilia		"		"
•		Ammon. Super r Pomace.	phos.		a Tood (	•
F. Ellsworth, Hartfo		r Pomace.		St. Lo	uis, Mo.	t Oil Co.,
	Casto	i i omaco.			uis, Mo.	a w OH Co.,
" "		-Sure Superpho	sphate.	M. L. S	Shoemake	r & Co.,
;; ;;		Meal.			elphia.	0 37 77
"		n Brand of Pota ricus B'd of Su		Williams	, Clark &	Co., N. Y.
11 11		State Superpho		Clark's C Bedfor		o Co., New
N. W. Foote, Danbu		lo Potato, Hop eco Phosphate.	and To-			falo, N.Y.
rt tt	Buffa	lo Ammoniate perphosphate.	d Bone	. "		"
Alfred Gallup, Onec	o. Bowk	er's Hill and Dr bridge Grain M		"	Fert. Co.,	"
11 11		Forage Cr	ор Ман.	"		"
	Drodl	1 ogciable			Cont Co	
H. M. Gifford, East W stock.		ey's Superpnos s Sea Fowl Gu		bradiey .	Fert. Co.,	boston.
6i (f		nal Coe's Super		11		"
Silas Griffiths, Sterli	ng. Bradle	ey's X. L. Sup te of Lime.		"		"

Dealer.		Article.	Manufactu	rer.
H L Holl In	Walling-	Soluble Pecific Guero	Pacific Guano Co	Boston
ford.	waning-	Soluble Pacific Guano.	Pacific Guano Co	
10ru.	44	Stockbridge Grain Manure.	Bowker Fert. Co.	, boston.
"	44	Totage Orop Man.	. 6	
44		regulable man.		
W Dunn Hall	Walling	Bowker's Hill and Drill Phos.		om Tondon
ford.	- 7	Dry Ground Fish Guano.	Quin. Fert. Co., N	
**	44	Phosphate.	4.6	4.6
4.6	11	Fish and Potash, Crossed Fishes Brand,	"	"
"	"	Fish and Potash, Plain Brand	"	44
Heaton & Thur terbury.	ber, Wa-	Ammoniated Fertilizer.	L. L. Crocker, Bu	ffalo, N. Y
	b, Sims-	Buffalo Ammoniated Bone Superphosphate.	££	"
	Canaan	Bradley's Superphosphate.	Bradley Fert. Co.	Roston
.i. ii	и	Americus Brand Superphos.	Williams, Clark &	
44	44	Soluble Pacific Guano.	Pacific Guano Co	
44	44	Stockbridge Potato Manure.		
"	44	Nova Scotia Land Plaster.	Bowker Fert. Co. H. C. Higginson,	
J. H. Ives, Dan	bury.	H. J. Baker's Superphos-	N. Y. H.J.Baker&Bro.,	NewYork
"	44	phate, A. A. Brand.	46	11
**		H. J. Baker's Pure Ground		
	"	Bone.		
		H. J. Baker's Potato Manure.		:
M. V. B. Lamb,	Norwich.	Farmer's Friend Phosphate.		
	44	Soluble Pacific Guano.	Pacific Guano Co	
J. E. Leonard, Je	wett City	Mitchell's Standard Phos.	A. Mitchell, Lind	
"	٤.	Bay State Fertilizer.	Clark's Cove Gi New Bedford.	ano Co.,
44	44	Steems Prod Dond Field		II Dimon
		Stearns Eagle Brand Fish	Stearns & Co., Fa	iii Kiver.
	11	and Potash.	"	"
••		Stearns Dry Ground Menha-		••
46	44	den Fish Guano.	T T Q 1 D	m 1 37 37
	••	Buffalo Ammoniated Bone	L. L. Crocker, Bu	ffalo, N. Y
D 16 T 1 17	α .	Super-Phosphate.	£ ;	44
F. M. Loomis, N	o.Granoy		44	44
**		Potato, Hop and Tobacco Phosphate.	**	**
J. A. Lewis, Wi	llimantic.	Fish and Potash.	Williams, Clark &	Co., N. Y
44	14	Pure Bone Meal.	"	6.6
44	44	Americus Ammo, Superphos.	44	64
64	4.6	L. L. Crocker's Ammoniated	Buffalo Fertilize:	r Co., Buf
		Superphosphate.	falo, N. Y.	
44	11	Darling's Fine Ground Bone.		
44	44	" Animal Fertilizer.	11	
4.6	4.6	Bowker's Dry Ground Fish.	Bowker Fert Co.	Boston
"	44	" Ammoniated Bone	4.	, 200011.
4.6	44	Superphosphate.		44
44	44	rish and rotash.		44
		Stockbridge Manure for Po- tatoes.		••
	44	Stockbridge Man. for Corn.	44	44
4.6				
44	4.6	Dole Common Sense Fert.	Dole Common S	oneo Fort

Dealer	r.	Article.	Manufacturer.
J. A. Lewis, W	illimantic.	Russell Coe's Ammoniated Bone Superphosphate.	Russell Coe, New York.
"		Russell Coe's Potato Manure.	"
46	"	Bay State Fertilizer.	Clark's Cove Guano Co., New Bedford.
44	"	Wilcox Prepared Fertilizer.	L. Wilcox & Co., Mystic
"	46	Acidulated Fish Guano, Fine	Bridge.
44	"	Ground.	ii ii
44	44	Acidulated Fish Guano. Twice pressed Crude Fish	
"	"	Guano.	
		Dry Ground Fish.	
J. B. Merrow Merrow.	,	Preston's Superphosphate.	Prestou Fertilizer Co., Green point, L. I.
**	*4	" Ground Bone.	
"	16	Mapes' Potato Manure.	Mapes' Formula & Peruvia
44	44	" Corn Manure.	Guano Co., New York.
11	44	" Complete Manure for	
"	"	Light and Sandy Soils.	"
	**	10bacco Manure,	
44	"	Conn. Brand.	., ,,
		"Tobacco Manure, for use with stems.	
44	4.6	" Complete Manure, A.	
		Brand.	
**	"	" Grass and Grain	44
		Spring Top Dressing.	
	"	" Plain Superphosphate	
S. A. Munson,	Riverton.		tt ti
**	44	Double Sulph. of Magnesia.	H.J. Baker & Bro., New York
"	"	Baker's A. A. Ammoniated Super-Phosphate.	11
ıi ·		"Pelican" Bone Fertilizer.	11
	44	Nova Scotia Laud Plaster.	G. H. Alford, Winsted.
Oscar Munvan.	Thompson	Bradley's Superphosphate.	Bradley Fert. Co., Boston.
H. P. Nichols,			Quin. Fert. Co., New London
44	64	Quinnipiae Phosphate.	"
John A. Pain	e. Daniel-	Russell Coe's Ammoniated	Russell Coe, Linden. N. J.
sonville.	, Dadioi	Superphosphate.	
"		Russell Coe's Spec'l Favorite.	11
**	"	Bowker's Hill and Drill Phos.	Bowker Fert. Co., Boston.
. "	"	" Fish and Potash. Bosworth Bros', Superphos-	Bosworth Bros Putnam
		phate of Lime.	
44	4.	Bosworth Bros'. Potato Phos.	.,
"	"	Mitchell's Standard Phos.	A. Mitchell, Linden, N. J.
tt tt	"	Soluble Pacific Guano. "Americus Brand" Ammo-	Pacific Guano Co., Boston. Williams, Clark & Co., N. Y
L. Eckford Pobrook.	ost, West-	niated Bone Superphos. Quinnipiac Phosphate.	Quin. Fert. Co., New London
"	**	" Fish and Potash.	
C. M. Pratt, W	estbrook.	Americus Ammoniated Bone Superphosphate.	Williams, Clark & Co., N. Y
"	ii.	Universal Ammoniated Dissolved Bone.	

Raymond Bros., Norwalk.  " C. O. Richardson,	South	Lister Bros. Ground Bone.  Mapes' Fertilizers. Pacific Guano. Bradley's Superphos. of Lime.	Common Sense Fertilizer Co., Boston. L. B. Darling & Co., Pawtucket, R. I. Mapes' F. & P. G. Co., N. Y. Bradley Fert. Co., Boston. Lister Bros., Newark, N. J. Mapes' F. & P. G. Co., N. Y.
Raymond Bros., Norwalk.  " C. O. Richardson,	South	Darling's Animal Fertilizer.  Mapes' Complete Manures. Bradley's Superphos. of Lime Lister Bros. Ground Bone.  Mapes' Fertilizers. Pacific Guano Bradley's Superphos. of Lime	L. B. Darling & Co., Pawtucket, R. I. Mapes' F. & P. G. Co., N. Y. Bradley Fert. Co., Boston. Lister Bros., Newark, N. J. Mapes' F. & P. G. Co., N. Y.
Raymond Bros., Norwalk.  """ """ """ """ """ """ """ """ """	South	Mapes' Complete Manures. Bradley's Superphos. of Lime Lister Bros. Ground Bone. Mapes' Fertilizers. Pacific Guano. Bradley's Superphos. of Lime	tucket, R. I. Mapes' F. & P. G. Co., N. Y. Bradley Fert. Co., Boston. Lister Bros., Newark, N. J. Mapes' F. & P. G. Co., N. Y.
Raymond Bros., Norwalk.  """ """ """ """ """ """ """ """ """	South	Bradley's Superphos. of Lime Lister Bros. Ground Bone. Mapes' Fertilizers. Pacific Guano. Bradley's Superphos. of Lime.	Mapes' F. & P. G. Co., N. Y. Bradley Fert. Co., Boston. Lister Bros., Newark, N. J. Mapes' F. & P. G. Co., N. Y.
Raymond Bros., Norwalk.  """""""""""""""""""""""""""""""""""	South	Lister Bros. Ground Bone.  Mapes' Fertilizers. Pacific Guano. Bradley's Superphos. of Lime.	Lister Bros., Newark, N. J. Mapes' F. & P. G. Co., N. Y.
Norwalk.  """""""""""""""""""""""""""""""""""	¢ ¢	Mapes' Fertilizers. Pacific Guano. Bradley's Superphos. of Lime.	Mapes' F. & P. G. Co., N. Y.
" " " C. O. Richardson,	6 6	Pacific Guano. Bradley's Superphos. of Lime	
" C. O. Richardson,	4	Bradley's Superphos. of Lime	Pacific Guano Co., Boston.
"." C. O. Richardson,			
C. O. Richardson,	1	Buffalo Honest Fertilizer.	,
C. O. Richardson,		John H. Wilson's Gr. Bone.	
		Geo.W. Miles' Fish & Potash.	
ling.		-	H.J. Baker & Bro., New York.
44 44		Potato Manure. Pelican Bone Fertilizer.	
W. H. Scott & Co	o., Pe-	Stockbridge Grain Manure.	Bowker Fert. Co., Boston.
- 11		" Forage Crop Man.	tt tt
		" Vegetable Man.	11
46 6		Bradley's Superphosphate.	Bradley Fert. Co., Boston.
N. E. Sears, Elmw		Peck Bros. Ground Bone. Ammoniated Bone Phos.	Peck Bros. Northfield. David Dickinson, Middle
IV. E. Sears, Elliw	oou.	Allimontated Done 1 nos.	Haddam.
Southmayd & Gard Middletown.	liner,	Ground Bone—Grade Meal.	Rogers & Hubbard Co., Mid- dletown.
		" —Grade A.	"
££ £		Chittenden's Fish & Potash.	
		Russell Coe's Phosphate.	Russell Coe, Linden, N. J.
		H. J. Baker's Special Corn Fertilizer.	H.J. Baker & Bro., New York
16 1	14	H. J. Baker's Special Potato	u
11 1		Fertilizer.	
.,		Bowker's Fish and Potash.	Bowker Fert. Co., Boston.
		N. Soda—M. Potash—Crude Saltpeter.	
ii i	: (	S. Potash—Sul. Magnesia,	
		Ground Plaster.	
"		Castor Pomace and several	
T D Cillimon No.	Co	kinds of salt. Bowker's Ammo. Bone Phos.	Darrican Fant Co. Poston
naan.	w Ca-	bowker's Ammo. Bone Filos.	bowker Fert. Co., Doston.
	44	" Grain Fertilizer.	41
		" Potato Manure.	44
	4.6	" Fish and Potash.	44
		Quinnipiae " "	11 11
		т површаес.	
ford.	w Mil-	Mapes' Complete Manure for light soils.	prapes F. & F. G. Co., N. I
	41	Mapes' Complete Manure, A Brand.	u
B. E. Smith, East G	ranbv		Bowker Fert. Co., Boston.
44		Bowker's Fish and Potash.	11
		Stockbridge Manure.	
Rich. H. Tucker, S.	aybr'k	Soluble Pacific Guano	Pacific Guano Co., Boston.

Dea	ler.	Article.	Manufac	turer.
Usher&Tink	er, Plainvill	e Americus Brand Ammoni- ated Bone Superphosphate	Williams, Clark	& Co., N. Y
"	**	Universal Brand of Ammoniated Dissolved Bone.	u	44
"		Bradley's Superphosphate of Lime.	Bradley Fert. C	o., Boston.
44	"	Quinnipiac Fish and Potash.	Quin. Fert. Co.,	New London
"	66	" Phosphate.	"	4.6
"	"	Ammou. Bone Superphos.	L. L. Crocker, 1	Buffalo, N. Y
**	"	Kainit.	Bowker Fert. C	o., Boston.
44	"	Fish and Potash.	"	
4.6	"	Pure Fish.	44	"
E. A. Watro	us, Meridei	n. Bradley's Fertilizer.	Bradley Fert. C	o., Boston.
"	44	Chittenden's Fish & Potash.	Nat'l Fert. Co.,	Bridgeport.
**	44	" Grass Fertilizer.	"	"
"	44	" Grain Fertilizer.		"
"	"	" Root Fertilizer.		"
"	**	" Fine Animal Bone.	"	44
D. B. Warner Haddam.	r & Son, Eas	Quinnipiac Fert. Co's Phos.	Quin. Fert. Co	New London
**	44	Dry Ground Fish.	44	44
t t	11	Fish and Potash, Crossed Fishes Brand.	"	"
44	44	Fish and Potash, Plain Brand	11	44
11	44	Quinnipiac Extra Superphos.	11	44
Wilson & B	urr, Middle	Mapes' Complete Manure,	Mapes' F. & P.	G. Co., N. Y
11		Mapes' Complete Manure, for general use.	"	"
"	"	Mapes' Corn Manure.	"	• "
4,6	44	" Potato Manure.	"	44
££	44	Nitrate of Soda.	"	16
"	"	Muriate of Potash.	"	"
66	"	Fish Guano.	Preston Fert.Co	Greenpoin
"	44	Ammon. Bone Superphos.	E. Frank Coe,	
££	"	Ground Bone Meal.	Roger's & Hubb	
4.6	££	" " A. Brand.	11 ti	4.1
44	**	" " A. X. "	44	"
££	"	No. 1 Quinnipiac Fish and Potash.	Quin. Fert. Co.,	New London
"	"	Stockbridge Potato Manure.	Bowker Fert. C	o., New York

Since the foregoing list was printed, J. A. Lewis wrote that he does not sell Wilcox & Co.'s "Acidulated Guano" and "Twice Pressed Crude Fish Guano." S. A. Munson, that he erroneously reported himself as agent for "Double Sulphate of Magnesia." E. A. Watrous, that he sells Chittenden's Fine Animal Bone, not as a fertilizer but as chicken feed. G. H. Alford wrote that Muriate of Potash was not sold by him. C. E. Chapman, that he has not sold and will not sell Bowker's Ground Bone. J. H. Ives, that he does not sell Baker's Ground Bone.

#### FERTILIZER ANALYSES.

GROUND BONE.

See pp. 10 and 11.

The first three analyses in the table, Nos. 1185, 1237 and 1246, are of ground steamed bone, from which the nitrogenous matter, grease and water have been largely removed, leaving the material dry and fine. They contain from 7 to 8 per cent. more phosphoric acid and  $2\frac{1}{2}$  per cent. less nitrogen than raw ground bone.

Nos. 1146 and 1194 contain a considerable amount (about 40 per cent.) of water and are sold at a low price on that account.

The quoted prices of The Rogers & Hubbard Co's brands of Bone are f. o. b. at Middletown in bbls., allowing 10 lbs. tare and no charge for bbls. The prices asked by J. P. Barstow & Co., Norwich, were \$45 for Bone "Meal" and \$42 for "A Fine."

The price of Peck Brothers' Pure Ground Bone is \$35.00 at the mill. In the case of this brand as well as of some others, it has been noticed that dealers' retail prices were sometimes several dollars per ton higher than the retail price at the mill.

Nos. 1238 and 1239 it is understood are not brands entered for sale, but are ground and mixed to make the "Pure Ground Bone," No. 1200.

The low valuation of Quinnipiac Bone No. 1158 is due both to the small amount of nitrogen and phosphoric acid in it and also to its mechanical condition. More than  $\frac{3}{6}$  of it by weight is in pieces that will not pass a  $\frac{1}{6}$  in mesh.

Nos. 1241, 1242, 1240, 1145 and 1229 all contain very considerable amounts of sand and other worthless matter insoluble in strong acids. "Kitchen Bones" gathered by bone-pickers would naturally have some sand adhering to them but when the ground bone contains over 5 per cent. of insoluble matter consisting of sand, soil, coal-ashes and like "dirt," or when the amount of phosphoric acid falls below 20 per cent., there is reason to complain of adulteration, unless as in the case of Lister's Ground Bone, No. 1145, the guarantee indicates that the article is not pure ground bone.

1229 is a sample with regard to which conflicting statements have reached the Station. The sender claims to have sold to the grinder "7600 lbs. of pure raw Bone at one cent per lb., with the

# BONE MANURES.

Station No.	Name of Brand.	Manufacturer.	Dealer from whom the Sample was	Sampled by.
1185 1237 1246 1146		Flour of Bone Ground Bone W. H. Anderson, Putnam Manufacturer Manufact	G. W. Miller, Middlefield Manufacturer.  Manufacturer.  J. M. Milbank, Greenfield to'n H. K. Brainard, Thompsonville. Station Agent.	er, Middlefield M. W. Terrill, Middlefield. Per Manufacturer. J. M. Milbank, Greenfield Hill. nard, Thompsonville. Station Agent.
1194	Damp Bone Saw Dust Pure Ground Raw Knuckle Bone Grade "Meel"	Bone Saw Dust	Manufacturer J. P. Barstow & Co., Norwich.	Manufacturer. Station Agent.
1196	Pure Ground Bone, Grade A.  Pure Gro'd Raw Knuckle Bone,  "Grade "A" Fryng Fring"	Pone, Orace mean Bone, Grade A. Rogers & Hubbard Co., Middleto'n Wilson & Burr, Middletown Station Agent. Pure Ground Bone, Rogers & Hubbard Co., Middleto'n J. P. Barstow & Co., Norwich Station Agent.	Wilson & Burr, Middletown J. P. Barstow & Co., Norwich	Station Agent. Station Agent.
1200 1238 1239	Ä F			C. H. Cables, Thomaston.  Manufacturer.  Manufacturer.
1230 1231 1158	F. W. Bennett's Ground Bone F. Smith's Ground Bone Quinnipiac Bone	E. Smith, South Canterbury Manufacturer. Quinnipiae Co., Wallingford S. J. Hall, Mer	iden	Manufacturer.
1241 1199 1243		F. C. Slade, Oakville		C. C. Churchill, Torriugton. C. H. Cables, Thomaston. Station Agent. C. C. Churchill, Torrington.
1145 1229	1145 Lister Bros. Celebrated Gro. Bone Lister Brothers, Newark, N. J R. B. Bradley & Co., New Haven Station Agent 1229 Ground Bone	Lister Brothers, Newark, N. J	R. B. Bradley & Co., New Haven	Station Agent.

Bone Manures,—Analyses and Valuations.

				Cond		FINER THAN	THAN				
Station No.	Brand.	Nltro- gen.	Phos- phoric Acid.	&c. in- soluble in Acid.	50 inch.	1. inch.	$\frac{1}{12}$ inch.	inch.	Coarser than than than inch.	Valua- tion per ton.	Cost per ton.
1185	Flour of Bone	1.50	30.03		87	13	0	0	0	\$40.97	
1237	Anderson's Ground Bone	2.15	30.31	1.26	22	22	1	0	0	43.19	95
1946	Peter Cooper's Ground Bone	1.48	31.65	1.47	50	15	24	11	0	39.71	_
1146	Rogers & Hubbard Co's Damp Bone Saw Dust	2.11	16.54	3 1	93	9	1	0	0	27.26	25.00
101	Damp Bone Saw Dust	2.49	17.09	:	93	9	-	0	0	29.23	25.00
1195	Pure Ground Raw Knuckle Bone Grade "Meal"	4.02	23.64	.30	34	34	32	0	0	38.94	40.00
1196	Pure Ground Bone Grade AX	4.04	21.27	2.70	56	23	37	14	0	34.87	36.00
1197	Pure Ground Raw Knuckle Bone "Grade 'A' Ex. Fine"	4.12	24.19	.13	30	23	47	0	.0	39.10	38.00
1200	Peck Bros' Bone	3.97	22.21	1.76	15	21	42	81	4	34.29	35.00
1238	Peek Bros' Raw Kitchen Bones	4.03	20.80	1.07	10	15	28	35	12	30.40	35.00
1239	Peek Bros' Boiled Fone.	4.15	22.46	.85	14	15	30	35	9	33.95	35.00
1230	P. W. Bennett's Ground Bone	3.51	23.90	1.71	10	17	24	43	6	32.80	36.00
1231	E. Smith's Ground Bone	3.93	20.59	2.31	32	တ္သ	5 <del>4</del>	. 9	0	35.08	34.00
1158	Quinnipiae Bone	3.38	18.71	1.50	20	2	11	11	89	23.96	35.00
1241	F. C. Slade's Bone	3,65	17.38	5.10	20	20	22	$^{36}$	12	27.97	35.00
1199	_	3.91	19.60	2.58	00	14	23	20	35	28.46	35.00
1249	Atwood Bros' Ground Bone	3.74	18.59	7.07	12	20	$^{56}$	24,	18	28.58	35.00
1240	Atwood Bros' Ground Bone	3.17	15.81	10.98	6	12	22	22	35	22.95	35.00
1145		3.25	13.81	3.55	44	50	18	17		25.31	33.00
1939	Ground Bone	2.34	13.39	33.49	24	16	16	12	32	19.77	35.00

\* In New York. Freight to Southport \$1.50 per ton.

agreement that he would take 1000 lbs. of ground Bone as part-payment, the balance to be cash." The sender writes that the grinder "makes it a part of his business to grind and sell Bone to the farmers of this vicinity." He also writes, "The price I paid——for the ground Bone was \$35.00 per ton."

The grinder of this Bone, in verbal statement, was understood to say on the other hand, that he does "not sell bone but grinds bone for those-who bring it," that "this bone was brought by and ground for the sender of the sample, and that it was so very sandy as to greatly injure the mill."

That Bones should carry so much as one-third their weight of sand, coal, and coal-ashes is difficult to understand. That various matters are often thrown into bone-mills to clear the grinding surfaces is well-known. That the sample 1229 fairly represents the lot from which it was taken the Station cannot assert. Under these circumstances the results of the analysis are given but the names of the parties concerned are withheld.

Messrs. Peck Brothers, Northfield, whose Ground Bone was valued in 1881 within \$0.76 and in 1882 within \$0.05 of cost, consider that injustice was done them in 1883 when their Bone was valued at \$10.30 below cost.

In explanation, it should be said, that in 1883 the selling price (\$40.00) with which the valuation (\$29.68) was compared, was the bag-price of their agent at Winsted and was \$5.00 more than the retail price at the mill (\$35.00).\* Messrs. Peck further believe the sample of 1883, having ½ per cent. nitrogen and 1½ per cent. phosphoric acid less than their former average, did not fairly represent their goods—was either too small or not carefully taken. The samples 1238 and 1239 sent by them this year, were lots of 25 lbs. each and were accompanied with Manufacturer's affidavit. They show good quality.

When the Station Agent visited Northfield and Oakville, Peck Bros. and F. C. Slade had no stock on hand. Nos. 1241 and 1240 were large samples and were accompanied by affidavit of Mr. Churchill.

<sup>\*</sup> Retail price in 1882 was \$32.00.

#### SUPERPHOSPHATES AND SPECIAL MANURES.

#### See pp. 14 and 15.

No. 1198 is a "manufacturer's sample" which under the requirements of the fertilizer law is deposited at the Station by the manufacturer with a statement that it is a fair average sample of the brand.

The law requires this Station to make one analysis annually of every brand sold in the State and when the Station agents have not found the goods on sale, it becomes necessary to analyze the sample deposited here by the manufacturer.

Comparison of the Guaranteed (6) and Actual (1) Composition of the goods whose analyses are reported in this bulletin.

#### Superphosphates.

No.	Brand.	Nitrog	gen.	Phos.	Acid, nd rev.	Phos.		Potas	sh.
1136 1139			F 2.6 3.6 3.4 3.7	6 9-11 6 5 8-10	F 9.5 6.4 5.9 9.1	G 2-3	F 3.2 0.6 0.7 0.1	G 1.5-2.5 7 10 7-8	F 3.1 7.7 9.8 6.7

#### GROUND BONE.

No.	Brand.	Nitrog	en.	Phos.	Acid.
1194	Rogers & Hubbard Co.'s Damp Bone Saw Dust	G 2.0	<b>F</b> 2.5	G 15.9	F 17.1
	Rogers & Hubbard Co.'s Ground Bone "Meal," Rogers & Hubbard Co.'s Ground Bone "A." Extra fine,	3.9	4.0 4.1	23.4 23.6	$\frac{23.6}{24.2}$
1246	Rogers & Hubbard Co.'s Ground Bone "A X," Peter Cooper's Bone, Lister Brothers' Bone,	3.9 2.1		22.5 27.7 11–13	21.3 31.7 13.8

SUPERPHOSPHATES AND SPECIAL MANURES.

Station No.	Name or Brand.	Manufacturer.	Dealers from whom the Sample was taken.	Sampled by.
1248	1248 Home Made Phosphate J. J. Webb, Hamden	J. J. Webb, Hamden		J. J. Webb, Hamden.
11191	Home Made Fertilizer for Potatoes M. S. Baldwin, Naugatuck	M. S. Baldwin, Naugatuck		M. S. Baldwin, Naugatuck.
1243	1213 Navassa Superphosphate Jno. Reed, 12 Oliff St., N.Y	Jno. Reed, 12 Cliff St., N. Y		J. M. Milbank, Greenfield Hill.
1186	1186 Raw Bone Phosphate	G. W. Miller, Middlefield Manufacturer		M. W. Terrill, Middlefield.
1198	1198 Curtis' Reliable Phosphate J. G. Curtis, Elliott Manufacturer	J. G. Curtis, Elliott	Manufacturer	Manufacturer.
1228	1228 Standard Superphosphate.	N. H. Fertilizer Co., New Haven New Haven Fertilizer Co Station Agent.	New Haven Fertilizer Co	Station Agent.
1177	1177 Bradley's Superphosphate	Bradley Fertil. Co., Boston, Mass. Peck Brothers, Northfield C. H. Cables, Thomaston.	Peck Brothers, Northfield	C. H. Cables, Thomaston.
1136	1136 Special Corn Manure	H. J. Baker & Bro., N. Y. City R. B. Bradley & Co., New Haven Station Agent.	R. B. Bradley & Co., New Haven	Station Agent.
1139	1139 Complete Potato Manure	H. J. Baker & Bro., N. Y. City. R. B. Bradley & Co., New Haven Station Agent.	R. B. Bradley & Co., New Haven	Station Agent.
1142	1142 Potato Manure Lister Brothers, Newark, N. J R. B. Bradley & Co., New Haven Station Agent.	Lister Brothers, Newark, N. J	R. B. Bradley & Co., New Haven	Station Agent.

SUPERPHOSPHATES AND SPECIAL MANURES, ANALYSES AND VALUATIONS.

	SUFFICIENTALES AND SERVING MESS, MARCHESES AND VALCANCE	avia i	, care	10017	STATE	THE	T T T T T T T T T T T T T T T T T T T				
Station No.	Brand.	Nitro- gen of Ni- trates.	Nitro- gen of Am- monia Salts.	Nitro- gen of Organic Matters.	Soluble Phos- phoric Acid.	Soluble Revert-Insolub. Phose ed Phost Phost Phost Acid. Acid. Acid. Acid.	Insolub. Phos- phoric Acid.	Potash.	Chlo- rine.	Valua- tion per ton.	Cost per ton.
1248	Home Made Phosphate	1 1	3.52	:	9.21	2.44	1.02	9.91	;	\$47.36	;
1191	Home Made Fertilizer for Potatees	3.79	-	2.86	7.06	.65	.05	9.93	1.02	53.95	53.95 \$50.00
1243	Navassa Superphosphate	:	;	;	10.97	.52	2.67	†	;	24.08	23.00
1186	Miller's Raw Bone Phosphate	:	;	1.86	5.21	5.59	2.46	6.04	6.28	35.26	43,00
1198	J. G. Curtis' Reliable Phosphate	•	:	1.60	2.69	1.80	3.06	;	!	17.77	1
1998	New Haven Fertilizer Co's Standard Superphosphate	:	1	3.16	3,63	1.22	4.78	2.87	.60	29.22	;
1177	Bradley's Superphosphate	90.	86.	1.61	8.14	1.37	3.22	3.09	2.65	35.05	42.00
1136	Baker's Special Corn Manure	;	3.08	.55	5.95	.46	.55	7.70	2.66	35.53	*50.00
1139	Baker's Complete Potato Manure	;	2.83	.54	5.30	.58	19.	9.79	9.51	35.34	47.50
1143	Lister Bros. Potato Manure	1	2.69	1.05	8.88	.25	.14	6.73	4.00	40.93	50.00
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\* Reckoned from cost per bag of 200 pounds.

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